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schnitt's Papers and Preparations relating to Pollen-tubes, by N. L. Britton. The rest of the number is given to the Proceedings of the Society, Miscellanea, and an Index to Articles of Interest to Microscopists.

In the meeting of December 5th, J. D. Hyatt speaks of Hydrogen Peroxide as a Bleaching Agent, but gives no details of the process.

This journal is edited by Benjamin Braman, and is to be published in nine monthly numbers, from November to July, inclusive.

METHOD OF MAKING ABSOLUTE ALCOHOL.—Dr. Sharp states that absolute alcohol is prepared in Ranvier's laboratory by adding anhydrous cupric sulphate to ninety-five per cent alcohol.¹

Pulverized cupric sulphate is heated to red heat in order to drive off the water of crystallization; when cool the white powder is placed in a wide-mouthed bottle, holding about a liter, and three-fourths full of alcohol. The bottle is quickly closed and the whole shaken. After standing a day or more—with occasional shakings—it is decanted and the operation repeated, especially if the cupric sulphate shows much of the blue color due to the reassumption of water.

As a test a drop of the alcohol thus dehydrated may be mixed with a drop of turpentine on a glass slide, and examined under the microscope; if no particles of water are to be seen the alcohol is absolute enough for all practical purposes.

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SCIENTIFIC NEWS.

—Mr. J. Dillon forwarded a paper to the Montreal meeting of the British Associations on an automatic sounder for the use of the explorer, in determining depths in rivers and lakes, and the character of the bottom. Over the side of the vessel is a long sounding bar or tube, in length $10\frac{1}{2}$ feet, or more, which bar works freely round a fixed center inside the boat. This fixed center is placed in the middle of a circular dial on which are marked fathoms or feet, a duplicate dial being placed in the captain's cabin. On mooring the boat over a shoal rising to the surface, the sounding bar, which always hangs vertically, will strike the shoal from its weight. The bar will run along the ground, pointing to the number of feet on the dial, representing the depths of the shoal under the surface of the water. It has been found that the vibrations of the sounding bar differ in degree when the boat moves it along different formations, thus enabling the observer, after very short experience, to record in his note-

¹ Roscoe and Schorlemmer state that anhydrous cupric sulphate is a good test for the presence of water, but not a suitable means for preparing absolute alcohol.

book whether the surface of the ground under the water is composed of mud, sand, gravel, boulders or rock.

—The Department of Biology of the University of Pennsylvania, which promises to be one of the leading schools of the "science of life," has been formally opened. Dr. Joseph Leidy is director of the department. Its aim is to encourage original research in biology, by offering facilities to scientists engaged in investigation and by giving instruction to advanced students prosecuting special work. The university has rented a table at Dr. Dohrn's Zoölogical Station, Naples, Italy, Dr. Charles Dolley being its representative. Mr. Edward Muybridge, whose attention to the study of the motion of animals and the illustration of them by instantaneous photographs has gained him favorable mention throughout the country, will work with the faculty, in photographing, and will give instruction in this branch to those who desire it.

Further information respecting the department may be obtained from Professor H. F. Jayne, M.D., secretary of the faculty, 1826 Chestnut street, Philadelphia.

—The third volume of the memoirs of the National Academy of Sciences, which has been transmitted to Congress by its president, Professor O. C. Marsh, of New Haven, contains the proceedings of the academy for 1884, and the following papers: 1, The sufficiency of terrestrial rotation for the deflection of streams, by G. K. Gilbert; 2, On the temperature of the surface of the moon, by Professor S. P. Langley; 3, On the determination of the laws of the vibration of tuning forks, with special reference to the action of a simple chronoscope, by Professor A. M. Mayer; 4, On the Baume hydrometers, by Professor C. F. Chandler; 5, On small differences of sensation, by Professor C. S. Peirce and J. Jastron; 6, Description of an articulate of doubtful relationship from the tertiary beds of Florissant, Colorado, by Dr. S. H. Scudder; 7, The structure of the *Columella auris* in the Pelycosauria, by Professor E. D. Cope; 8, On the structure of the brain of the sessile-eyed Crustacea, by Professor A. S. Packard.

—The existence of a cavern in the neighborhood of Beaver hole, on Cheat river, near St. George, W. Va., has been known for years; but it was never explored until the past week, when a party of men devoted a day to an examination of the cave. It proves to be a remarkable cavern, or rather a series of caverns, for there are five of them, one above the other. The lower one was explored a distance of a mile, and the upper one two miles. There is a small stream in the lower one, but the upper one is comparatively dry. The rooms are large and have evidently been cleared of débris at some former period. In one evidence of a fire was found, and the remnant of bones, which were brought

out and will be sent to an antiquarian for identification. The cave is almost on the line of the new West Virginia Central Railroad.

—The Amsterdam *Allgemein Handelsblad*, publishes a communication from Professor Cohn, recapitulating the substance of the correspondence between Leeuwenhoek and Francis Aston, F.R.S. The celebrated naturalist, writing from Delft in 1683, tells Aston how, with the aid of the microscope, he had discovered and distinguished minute organisms amongst the particles of food removed from between his teeth. In 1692 Leeuwenhoek sent sketches of these organisms to the Royal Society; but he experienced a period when he could not discover any traces of them, and attributed their disappearance to the use of hot coffee.—*English Mechanic*.

—The works of Darwin are not allowed to be issued from the circulating libraries of Russia, and a recent imperial decree puts those of Agassiz, Huxley, Lubbock, Adam Smith, Lewes, and Spencer on the same list. The new list is not confined to English and American authors, for Moleschott, Büchner, Vogt, Reclus, and others are considered unsuitable for Russian readers.

—The death is announced of Mr. John Gwyn Jeffreys, LL.D., F.R.S., the distinguished conchologist and naturalist. Mr. Jeffreys was born at Swansea, in 1809, and was called to the bar; but about twenty years ago he retired from practice, and devoted himself entirely to his favorite branch of science. In his early life he was an enthusiastic dredger, and as soon as he was able purchased a yacht in order the better to prosecute his work. When the *Porcupine* was fitted out in 1869, in company with Dr. Carpenter and the late Sir Wyville Thompson, Mr. Jeffreys conducted the exploring voyages, and subsequently superintended the scientific work of the *Valorous*, when that frigate accompanied our latest Arctic expedition as far as Davis straits. His first paper was contributed to the transactions of the Linnean Society at the early age of nineteen, and since then his contributions to the transactions of the Royal and other societies, have been both numerous and valuable.

—Professor Lauritz Esmark, director of the zoölogical museum of the University of Christiania, Norway, died in December last. He once spent nearly two years in this country, traveling extensively, and was hospitable to American naturalists visiting in Norway.

—Vice-Admiral H. W. Bayfield died at Charlottetown, N. S., February 12, aged 90 years. He will be remembered for his surveys of the St. Lawrence gulf and the coast of Labrador.

—The death is also announced of Dr. Friedrich von Stein, professor of zoölogy and zoötomy in the University of Prague for thirty years. Professor Stein was sixty-seven.